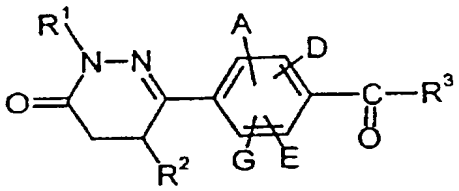
**Patent claims**

1. A 6-carboxyphenyldihydropyridazinone derivative of the general formula (I)



(I)

in which

A, D, E and G are identical or different and

represent hydrogen, halogen, trifluoromethyl or hydroxyl, or represent $(C_1-C_6)$-alkyl or represent $(C_1-C_6)$-alkoxy,

$R^1$ and $R^2$ are identical or different and

represent hydrogen or represent $(C_1-C_6)$-alkyl,

$R^3$ represents radicals of the formulae $-OR^4$ or $-NR^5R^6$,

in which

$R^4$ denotes cycloalkyl having from 3 to 8 carbon atoms or $(C_1-C_8)$-alkyl which is optionally substituted by hydroxyl, $(C_1-C_6)$-alkoxy, cycloalkyl having from 3 to 8 carbon atoms or aryl having from 6 to 10 carbon atoms which, for its part, can be substituted, once to twice, identically or differently, by substituents which are selected from the group: halogen, $(C_1-C_6)$-alkoxy, hydroxyl or trifluoromethyl, or

denotes $(C_1-C_8)$-alkyl which is optionally substituted by a group of the formula $-NR^7R^8$,

contd. a1

in which

$R^7$ and $R^8$ are identical or different and denote hydrogen, $(C_1-C_6)$-alkyl or benzyl,

or

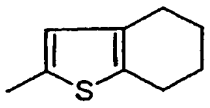
$R^4$ denotes vinyl or allyl,

or

$R^4$ denotes aryl having from 6 to 10 carbon atoms which is optionally substituted, once to twice, identically or differently, by substituents which are selected from the group consisting of: halogen, $(C_1-C_6)$-alkyl, $(C_1-C_6)$-alkoxy or hydroxyl,

$R^5$ denotes hydrogen or $(C_1-C_4)$-alkyl,

$R^6$ denotes cycloalkyl having from 3 to 8 carbon atoms or a radical of the formula



or

aryl having from 6 to 10 carbon atoms or a 5- to 7-membered aromatic heterocycle having up to 3 heteroatoms from the series S, N and/or O, it being possible for the ring systems which are listed here to be optionally substituted, once to several times, identically or differently, by substituents which are selected from the group: halogen, trifluoromethyl, hydroxyl, $(C_1-C_6)$-alkoxy, carboxyl, $(C_1-C_6)$-alkoxycarbonyl,

contd. a1

($C_1$-$C_6$)-alkyl and radicals of the formulae $-SO_2-NR^9R^{10}$ and $-(CO)_a-NR^{11}R^{12}$,

in which

$R^9$, $R^{10}$, $R^{11}$ and $R^{12}$ are identical or different and denote hydrogen or ($C_1$-$C_6$)-alkyl,

and

a denotes a number 0 or 1,

or

$R^6$ denotes ($C_1$-$C_8$)-alkyl which is optionally substituted, once to twice, identically or differently, by substituents which are selected from the group: halogen, trifluoromethyl, hydroxyl, ($C_1$-$C_6$)-alkoxy, carboxyl, ($C_1$-$C_6$)-alkoxycarbonyl and aryl having from 6 to 10 carbon atoms and a 5- to 7-membered aromatic heterocycles having up to 3 heteroatoms from the series S, N and/or O, in which the ring systems can be optionally substituted, once to three times, identically or differently, by ($C_1$-$C_6$)-alkyl, halogen, ($C_1$-$C_6$)-alkoxy, ($C_1$-$C_6$)-alkoxycarbonyl, trifluoromethyl or by the radical $-CO-NH_2$,

or

$R^5$ and $R^6$ form, together with the nitrogen atom, cyclic radicals of the formulae

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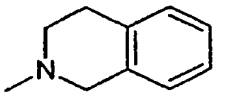
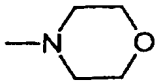
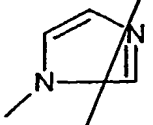

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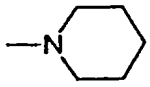


which, for their part, can be optionally substituted,

and the salts thereof,

with the exception, however, of the compound N-methyl-4-(4-methyl-6-oxo-1,4,5,6-tetrahydropyridazin-3-yl)benzamide.

2. A 6-carboxyphenyldihydropyridazinone derivative of the general formula (I) as claimed in claim 1,

in which

A, D, E and G are identical or different and
represent hydrogen, fluorine, chlorine, bromine or trifluoromethyl,

$R^1$ and $R^2$ are identical or different and
represent hydrogen or represent methyl,

$R^3$ represents radicals of the formulae $-OR^4$ or $-NR^5R^6$,

in which

$R^4$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes $(C_1-C_6)$-alkyl which is optionally substituted by hydroxyl, $(C_1-C_4)$-alkoxy, cyclopropyl, cyclopentyl,

contd. A1

cyclohexyl or phenyl which, for its part, can be substituted once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, $(C_1-C_4)$-alkoxy, hydroxyl or trifluoromethyl, or

denotes $(C_1-C_6)$-alkyl which is optionally substituted by a group of the formula $-NR^7R^8$,

in which

$R^7$ and $R^8$ are identical or different and denote hydrogen or $(C_1-C_4)$-alkyl,

or

$R^4$ denotes allyl,

$R^5$ denotes hydrogen or $(C_1-C_3)$-alkyl,

$R^6$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes phenyl, thienyl, thiazolyl, furyl or pyridyl, it being possible for the listed aromatic ring systems to be optionally substituted, once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, trifluoromethyl, hydroxyl, $(C_1-C_3)$-alkoxy, $(C_1-C_3)$-alkoxycarbonyl, $(C_1-C_4)$-alkyl and radicals of the formulae $-SO_2NR^9R^{10}$ and $-(CO)_a-NR^{11}R^{12}$,

in which

$R^9$, $R^{10}$, $R^{11}$ and $R^{12}$ are identical or different and denote hydrogen or $(C_1-C_4)$-alkyl,

contd. A1

and

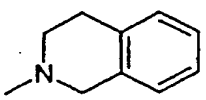
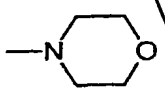
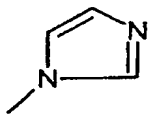
a denotes a number 0 or 1,

or

$R^6$ denotes ($C_1$-$C_6$)-alkyl which are optionally substituted once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, trifluoromethyl, hydroxyl, ($C_1$-$C_4$)-alkoxy, ($C_1$-$C_4$)-alkoxycarbonyl, phenyl, pyridyl, naphthyl, furyl or thiazolyl, it being possible for the ring systems to be optionally substituted, once to twice, identically or differently, by fluorine, chlorine, methyl, methoxycarbonyl, trifluoromethyl or by a radical of the formula -CO-$NH_2$,

or

$R^5$ and $R^6$ form, together with the nitrogen atom, cyclic radicals of the formulae

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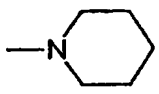


and the salts thereof,

contd - A1

with the exception, however, of the compound N-methyl-4-(4-methyl-6-oxo-1,4,5,6-tetrahydropyridazin-3-yl)benzamide.

3. A 6-carboxyphenyldihydropyridazinone derivative of the general formula (I) as claimed in claim 1,

in which

A, D, E and G represent hydrogen,

$R^1$ and $R^2$ are identical or different and represent hydrogen or represent methyl,

$R^3$ represents radicals of the formulae $-OR^4$ or $-NR^5R^6$,

in which

$R^4$ denotes cyclopropyl, cyclopentyl or cyclohexyl or denotes $(C_1-C_5)$-alkyl which is optionally substituted by $(C_1-C_4)$-alkoxy, cyclopropyl, cyclopentyl, cyclohexyl or phenyl which, for its part, can be substituted, once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, $(C_1-C_4)$-alkoxy, hydroxyl or trifluoromethyl, or

denotes $(C_1-C_4)$-alkyl which is optionally substituted by a group of the formula $-NR^7R^8$,

in which

$R^7$ and $R^8$ are identical or different and denote hydrogen, benzyl or methyl,

contd. A1

or

$R^4$ denotes allyl,

$R^5$ denotes hydrogen or $(C_1-C_3)$-alkyl,

$R^6$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes naphthyl, phenyl, thienyl, thiazolyl, furyl or pyridyl, the listed ring systems being optionally substituted once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, trifluoromethyl, $(C_1-C_3)$-alkoxy, $(C_1-C_3)$-alkoxycarbonyl, $(C_1-C_3)$-alkyl and radicals of the formulae $-SO_2-NR^9R^{10}$ and $-(CO)_a-NR^{11}R^{12}$,

in which

$R^9$, $R^{10}$, $R^{11}$ and $R^{12}$ are identical or different and denote hydrogen or $(C_1-C_4)$-alkyl,

and

a denotes a number 0 or 1,

or

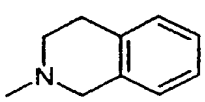
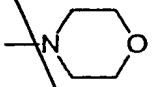
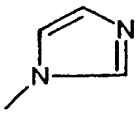
$R^6$ denotes $(C_1-C_6)$-alkyl which is optionally substituted by substituents selected from the group: fluorine, chlorine, trifluoromethyl, $(C_1-C_3)$-alkoxy, $(C_1-C_3)$-alkoxycarbonyl, phenyl, pyridyl, naphthyl, furyl, thienyl or thiazolyl, the ring systems optionally being substituted once to twice, identically

contd. A1

or differently, by fluorine, chlorine, methyl, methoxycarbonyl or trifluoromethyl or by a radical of the formula -CO-$NH_2$,

or

$R^5$ and $R^6$ form, together with the nitrogen atom, cyclic radicals of the formulae

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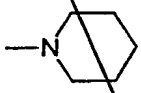


and the salts thereof,

with the exception, however, of the compound N-methyl-4-(4-methyl-6-oxo-1,4,5,6-tetrahydropyridazin-3-yl)benzamide.

4. A 6-carboxyphenyldihydropyridazinone derivative of the general formula (I) as claimed in claim 1,

in which

A, D, E and G represent hydrogen,

$R^3$ represents the radical -$NR^5R^6$, where $R^5$ = H or methyl and $R^6$ is as previously defined,

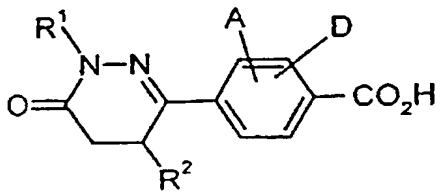
and the remaining radicals have the previously mentioned meaning.

contd. A1

5. A process for preparing 6-carboxy-phenyl-dihydropyridazinone derivatives as claimed in claims 1 to 4, characterized in that

[A] in the case where $R^3$ represents the radical of the formula $-OR^4$ in the above general formula (I),

compounds of the general formula (II)

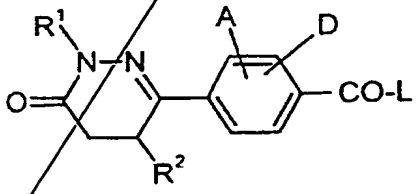


(II),

in which

A, D, $R^1$ and $R^2$ have the abovementioned meaning,

are initially converted, by reaction with carboxylic acid-activating reagents, using customary methods, into the compounds of the general formula (IV)



(IV),

in which

A, D, $R^1$ and $R^2$ have the abovementioned meaning,

and

contd. A1

L represents an activating radical, preferably chlorine or imidazolyl,

and, in a second step, reacted with compounds of the general formula (III)

$$HO\text{-}R^4 \qquad (III),$$

in which

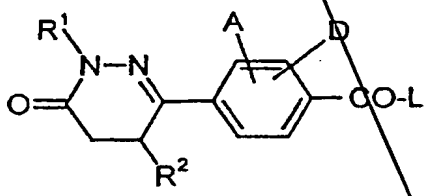
$R^4$ has the abovementioned meaning,

in inert solvents, where appropriate in the presence of a base,

or

[B] in the case where $R^3$ represents the radical of the formula $-NR^5R^6$ in the above general formula (I),

compounds of the general formula (II) are initially converted, by reaction with carboxylic acid-activating reagents, and using customary methods, into the compounds of the general formula (IV)




(IV),

in which

A, D, $R^1$ and $R^2$ have the abovementioned meaning,

contd. A1

and

L represents an activating radical, preferably chlorine or imidazolyl,

and, in a second step, reacted with amides of the general formula (V)

$$HNR^5R^6 \qquad (V),$$

in which

$R^5$ and $R^6$ have the abovementioned meaning,

in inert solvents.

6. A medicament or pharmaceutical composition which comprises at least one compound as claimed in claims 1 to 4 and also one or more pharmacologically harmless auxiliary and carrier substances.

redund.

7. A medicament or pharmaceutical composition as claimed in claim 6 for the prophylaxis and/or treatment of anemias.

superfl.

8. A medicament or pharmaceutical composition as claimed in claim 6 or 7 for treating premature baby anemias, anemias associated with chronic renal insufficiency, anemias following chemotherapy and anemias in HIV patients.

9. A medicament or pharmaceutical composition as claimed in claim 6 for stimulating the erythropoiesis of individuals donating their own blood.

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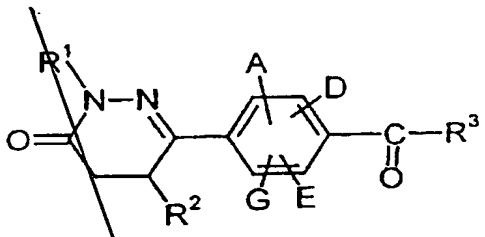
10. The use of 6-carboxyphenyldihydropyridazinone derivatives of the general formula (I)

contd. A2



(I)

in which

A, D, E and G are identical or different and

represent hydrogen, halogen, trifluoromethyl or hydroxyl, or represent $(C_1-C_6)$-alkyl or represent $(C_1-C_6)$-alkoxy,

$R^1$ and $R^2$ are identical or different and

represent hydrogen or represent $(C_1-C_6)$-alkyl,

$R^3$ represents radicals of the formulae $-OR^4$ or $-NR^5R^6$,

in which

$R^4$ denotes cycloalkyl having from 3 to 8 carbon atoms or $(C_1-C_8)$-alkyl which is optionally substituted by hydroxyl, $(C_1-C_6)$-alkoxy, cycloalkyl having from 3 to 8 carbon atoms or aryl having from 6 to 10 carbon atoms which, for its part, can be substituted, once to twice, identically or differently, by substituents which are selected from the group: halogen, $(C_1-C_6)$-alkoxy, hydroxyl or trifluoromethyl, or

denotes $(C_1-C_8)$-alkyl which is optionally substituted by a group of the formula $-NR^7R^8$,

in which

contd. A 2

$R^7$ and $R^8$ are identical or different and denote hydrogen, $(C_1-C_6)$-alkyl or benzyl,

or

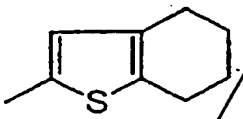
$R^4$ denotes vinyl or allyl,

or

$R^4$ denotes aryl having from 6 to 10 carbon atoms which is optionally substituted, once to twice, identically or differently, by substituents which are selected from the group consisting of: halogen, $(C_1-C_6)$-alkyl, $(C_1-C_6)$-alkoxy or hydroxyl,

$R^5$ denotes hydrogen or $(C_1-C_4)$-alkyl,

$R^6$ denotes cycloalkyl having from 3 to 8 carbon atoms or a radical of the formula



or

aryl having from 6 to 10 carbon atoms or a 5- to 7-membered aromatic heterocycle having up to 3 heteroatoms from the series S, N and/or O, it being possible for the ring systems which are listed here to be optionally substituted, once to several times, identically or differently, by substituents which are selected from the group: halogen, trifluoromethyl, hydroxyl, $(C_1-C_6)$-alkoxy, carboxyl, $(C_1-C_6)$-alkoxycarbonyl, $(C_1-C_6)$-alkyl and radicals of the formulae $-SO_2-NR^9R^{10}$ and $-(CO)_a-NR^{11}R^{12}$,

in which

contd. A2

$R^9$, $R^{10}$, $R^{11}$ and $R^{12}$ are identical or different and denote hydrogen or $(C_1-C_6)$-alkyl,

and

a denotes a number 0 or 1,

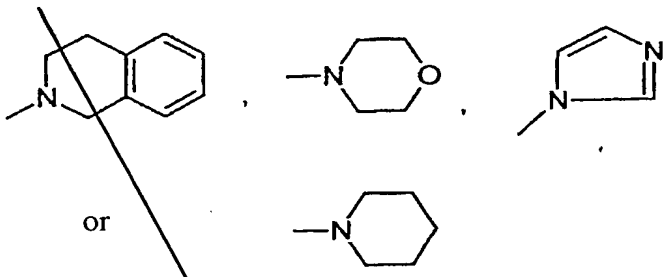
or

$R^6$ denotes $(C_1-C_8)$-alkyl which is optionally substituted, once to twice, identically or differently, by substituents which are selected from the group: halogen, trifluoromethyl, hydroxyl, $(C_1-C_6)$-alkoxy, carboxyl, $(C_1-C_6)$-alkoxycarbonyl and aryl having from 6 to 10 carbon atoms and a 5- to 7-membered aromatic heterocycle having up to 3 heteroatoms from the series S, N and/or O, in which the ring systems can be optionally substituted, once to three times, identically or differently, by $(C_1-C_6)$-alkyl, halogen, $(C_1-C_6)$-alkoxy, $(C_1-C_6)$-alkoxycarbonyl, trifluoromethyl or by the radical $-CO-NH_2$,

or

$R^5$ and $R^6$ form, together with the nitrogen atom, cyclic radicals of the formulae

contd. A2



or



which, for their part, can be optionally substituted,

and the salts thereof,

for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of anemias.

11. The use of 6-carboxyphenyldihydropyridazinone derivatives of the general formula (I) as claimed in claim 10,

in which

A, D, E and G are identical or different and
represent hydrogen, fluorine, chlorine, bromine or trifluoromethyl,

$R^1$ and $R^2$ are identical or different and
represent hydrogen or represent methyl,

$R^3$ represents radicals of the formulae $-OR^4$ or $-NR^5R^6$,

in which

$R^4$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes $(C_1-C_6)$-alkyl which is optionally substituted by hydroxyl, $(C_1-C_4)$-alkoxy, cyclopropyl, cyclopentyl,

contd. A2

or phenyl which, for its part, can be substituted once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, $(C_1-C_4)$-alkoxy, hydroxyl or trifluoromethyl, or

denotes $(C_1-C_6)$-alkyl which is optionally substituted by a group of the formula $-NR^7R^8$,

in which

$R^7$ and $R^8$ are identical or different and denote hydrogen or $(C_1-C_4)$-alkyl,

or

$R^4$ denotes vinyl or allyl,

$R^5$ denotes hydrogen or $(C_1-C_3)$-alkyl,

$R^6$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes phenyl, thienyl, thiazolyl, furyl or pyridyl, it being possible for the listed aromatic ring systems to be optionally substituted, once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, trifluoromethyl, hydroxyl, $(C_1-C_3)$-alkoxy, $(C_1-C_3)$-alkoxycarbonyl, $(C_1-C_4)$-alkyl and radicals of the formulae $-SO_2NR^9R^{10}$ and $-(CO)_a-NR^{11}R^{12}$,

in which

$R^9$, $R^{10}$, $R^{11}$ and $R^{12}$ are identical or different and denote hydrogen or $(C_1-C_4)$-alkyl,

contd. A2

and

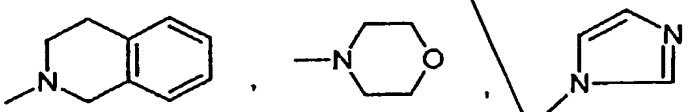
a denotes a number 0 or 1,

or

$R^6$ denotes ($C_1$-$C_6$)-alkyl which are optionally substituted once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, trifluoromethyl, hydroxyl, ($C_1$-$C_4$)-alkoxy, ($C_1$-$C_4$)-alkoxycarbonyl, phenyl, pyridyl, naphthyl, furyl or thiazolyl, it being possible for the ring systems to be optionally substituted, once to twice, identically or differently, by fluorine, chlorine, methyl, methoxycarbonyl, trifluoromethyl or by a radical of the formula -CO-$NH_2$,

or

$R^5$ and $R^6$ form, together with the nitrogen atom, cyclic radicals of the formulae



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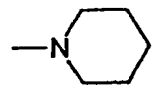


which are in turn optionally substituted,

and the salts thereof,

contd. A2

for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of anemias.

12. The use of 6-carboxyphenyldihydropyridazinone derivatives of the general formula (I) as claimed in claim 10,

in which

A, D, E and G represent hydrogen,

$R^1$ and $R^2$ are identical or different and
represent hydrogen or represent methyl,

$R^3$ represents radicals of the formulae $-OR^4$ or $-NR^5R^6$,

in which

$R^4$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes ($C_1$-$C_5$)-alkyl which is optionally substituted by ($C_1$-$C_4$)-alkoxy, cyclopropyl, cyclopentyl, cyclohexyl or phenyl which, for its part, can be substituted, once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, ($C_1$-$C_4$)-alkoxy, hydroxyl or trifluoromethyl, or

denotes ($C_1$-$C_4$)-alkyl which is optionally substituted by a group of the formula $-NR^7R^8$,

in which

contd. A2

$R^7$ and $R^8$ are identical or different and denote hydrogen, benzyl or methyl,

or

$R^4$ denotes allyl,

$R^5$ denotes hydrogen or $(C_1-C_3)$-alkyl,

$R^6$ denotes cyclopropyl, cyclopentyl or cyclohexyl or
denotes naphthyl, phenyl, thienyl, thiazolyl, furyl or pyridyl, the listed ring systems being optionally substituted once to twice, identically or differently, by substituents selected from the group: fluorine, chlorine, bromine, trifluoromethyl, $(C_1-C_3)$-alkoxy, $(C_1-C_3)$-alkoxycarbonyl, $(C_1-C_3)$-alkyl and radicals of the formulae $-SO_2-NR^9R^{10}$ and $-(CO)_a-NR^{11}R^{12}$,

in which

$R^9$, $R^{10}$, $R^{11}$ and $R^{12}$ are identical or different and denote hydrogen or $(C_1-C_4)$-alkyl,

and

a denotes a number 0 or 1,

or

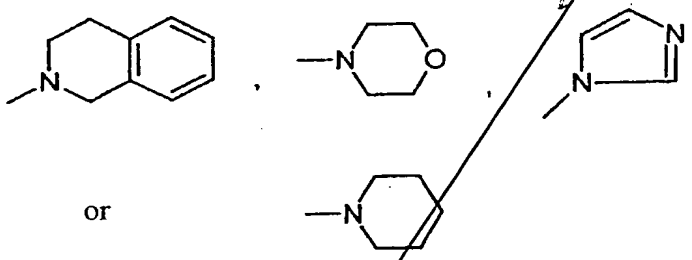
$R^6$ denotes $(C_1-C_6)$-alkyl which is optionally substituted by substituents selected from the group: fluorine, chlorine, trifluoromethyl, $(C_1-C_3)$-alkoxy, $(C_1-C_3)$-alkoxycarbonyl, phenyl, pyridyl, naphthyl, furyl, thienyl or thiazolyl, the ring

contd. A2

ring systems optionally being substituted once to twice, identically or differently, by fluorine, chlorine, methyl, methoxycarbonyl or trifluoromethyl or by a radical of the formula $-CO-NH_2$,

or

$R^5$ and $R^6$ form, together with the nitrogen atom, cyclic radicals of the formulae



which are in turn optionally substituted,

and the salts thereof,

for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of anemias.

13. The use of 6-carboxyphenyldihydropyridazinone derivatives of the general formula (I) as claimed in claim 10,

in which

A, D, E and G represent hydrogen,

contd. A2

$R^3$ represents the radical $-NR^5R^6$, where $R^5$ = H or methyl and $R^6$ is as previously defined,

and the remaining radicals have the previously given meaning,

and the salts thereof,

for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of anemias.

14. The use as claimed in one of claims 10 to 13 for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of premature baby anemias, anemias associated with chronic renal insufficiency, anemias following chemotherapy and anemias in HIV patients.

15. The use as claimed in one of claims 10 to 13 for preparing medicaments or pharmaceutical compositions for stimulating the erythropoiesis of individuals donating their own blood.

16. The use of erythropoietin sensitizers for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of anemias.

17. The use as claimed in claim 16 for preparing medicaments or pharmaceutical compositions for the prophylaxis and/or treatment of premature baby anemias, anemias associated with chronic renal insufficiency, anemias following chemotherapy and anemias in HIV patients.

18. The use of erythropoietin sensitizers for preparing medicaments or pharmaceutical compositions for stimulating the erythropoiesis of individuals donating their own blood.

Amen. A3

19. The use as claimed in one of claims 16 to 18, characterized ~~in that the erythropoietin~~ sensitizers are administered orally.

Add A4